

Sentry MPS 500KVA – 800KVA **Uninterruptable Power Supplies**



Quality power supply

Sentry MPS is an on-line, double conversion UPS of class VFI SS 111 in accordance with IEC EN 62040-3 with an internal inverter and output transformer. This solution is particularly suitable for high-level applications where the immunity of the load from the mains is a real issue.

The Sentry MPS is available in three ratings: 500, 600 and 800 KVA, each of these are offered in two versions to better match the market requirements:

- MPS Plus
- MPS Sinus

Clean Input

Thanks to the low input current distortion of less than 3% (Sinus model), the Sentry MPS reduces interference to other loads on the same supply. For all MPS variants the power factor is greater than 0,9, whilst the MPS Sinus variant guarantees a power factor of 0.95, even at partial loads. This means that it is unnecessary to oversize the supply cables and the rating of the upstream supply transformers, thereby reducing the installation and ownership costs.

Motor Generator Friendly

The low input current distortion, high input power factor, progressive (configurable) rectifier start-up and battery recharge inhibition makes the Sentry MPS ideal for use with smaller sized generator sets, in some cases close to the UPS rated power.

Battery care system

Sentry MPS includes the “*Battery Care System*” that manages batteries in order to obtain best performances and prolonged operating life. This is achieved through:

- Absence of battery charging current ripple
- Two voltage level charging to optimize the recharge current and reduce recharging time
- Temperature compensated recharging voltage and protection against deep minimise aging phenomena and prolong battery life
- Maximum recharge time block to reduce electrolyte consumption and improve VRLA battery lifetime
- Battery test to check performance and ensure that the batteries are always ready

The Sentry MPS is compatible with different battery technologies such as open lead acid, AGM and Gel VRLA, and NiCd.

Battery recharge capability

Sentry MPS is designed to supply the nominal load and recharge the batteries. At partial loads the spare power can be used to recharge the batteries, therefore Sentry MPS can recharge 3 hours back up batteries in only 10 hours .

Flexibility

Sentry MPS Series is ON-LINE double conversion design but can also operate in the following modes:

- Smart Active
- Stand-by-Off, suitable for Emergency Escape Light (CSS – Central Supply System), as per standard EN50171.

All models can be used as frequency converter – 50Hz to 60Hz and vice versa.

Expandability

The units can be connected in parallel - up to eight modules - to increase power availability or the redundancy. The single module or the system can be expanded at any time depending on the power demand without any impact on the initial investment. Thanks to the peculiarity of the "*Hot System Expansion*" feature, the additional unit can be connected in parallel while the other units are on-line and supplying regular power to the load. The new UPS in on-line and will receive the updated information automatically.

Dual Bus System

The Dual Bus System supplies the priority loads from two independent sources. This configuration increases the redundancy and availability level of a multi-module configuration. Each bus may consist of a single module or up to 8 modules in parallel, kept in synchro by the optional UGS device (UPS Group Synchroniser). This allows the use of the STS (Static Transfer Switch) downstream to power the loads.

Dynamic Dual Bus System

Two independent systems set in Dual Bus configuration can be merged together at any time for system expansion or maintenance. This provides a lot of flexibility in your installation in case of maintenance or when it is necessary to change the redundancy level of both systems. The safety of the operations is guaranteed by the optional device PSJ.

Ease of installation

Sentry MPS has a very small footprint (only 0,64mq for 200kVA). The front access makes it very easy for all servicing operation while upward ventilation makes positioning against the wall possible.

Advanced communication

MPS Series is delivered with the AROS Watch&Save 3000 Software package and is compatible with PowerNETGuard or Teleguard for remote maintenance. The UPS is supplied with two RS232 outputs for remote monitoring and a wide range of communication cards:

- Netman 102 Plus (SNMP Agent)
- Multicom 302 (MODBUS/JBUS)
- Multicom 352 (Serial Duplexer)
- Profibus Converter
- Multi I/O (Modbus Converter of the alarms coming from outside the UPS cubicle)
- 2 alarms cards with relay contacts, alarms are user-programmable through the software.

For more information on the Communication Cards see the CONNECTIVITY area

Application

Sentry MPS guarantees maximum protection and quality of power supply for any type of load and in particular for "mission critical" applications, security and electromedical systems, industrial processes and telecommunications.

Power VA	Model	Output phases	Dimensions WxDxH (mm)	Weight (kg)
500000	MPS 500	3+N	3200x980x1900	3600
600000	MPS 600	3+N	3200x980x1900	4000
800000	MPS 800	3+N	4400x1000x1900	5300

INPUT	MPS 500	MPS 600	MPS 800
Voltage	380 - 400 - 415 V three-phase		
Voltage tolerance	400 V $\pm 20\%$		
Input frequency	45÷ 65 Hz		
Accepted frequency	$\pm 2\%$ (selectable from $\pm 1\%$ to $\pm 5\%$ from the front panel)		
Current distortion	MPS Plus: <8%THDI; MPS Sinus: <4%THDI		
Input phases	3		
Soft start (Power Walk In)	0 ÷ 100% in 120" configurable		
BATTERIES	MPS 500	MPS 600	MPS 800
Type	Lead and VRLA AGM / GEL; NiCd		
Number of Pb elements	240		
Recharging voltage	< 1%		
Temperature compensation	-0,5 Vx°C		
OUTPUT	MPS 500	MPS 600	MPS 800
Rated power	500000 VA	600000 VA	800000 VA
Active power	400kW	480kW	640kW
Phases number	3+N		
Waveform	Sinusoidal		
Rated voltage	380 – 400 – 415 V threephase + N		
Voltage distortion with distorting load	< 3%		
Voltage distortion with linear load	< 1%		
Frequency	50/60 Hz configurable		
Dynamic stability	$\pm 5\%$ in 10msec.		
Static stability	$\pm 1\%$		
Crest factor (I _{peak} /I _{rms})	3:1		
Output phases	3		
Overload	110% for 60'; 125% for 10'; 150% for 1'		
SYSTEM	MPS 500	MPS 600	MPS 800
AC/AC efficiency	Up to 94%		
Operating altitude	Up to 1000 m (1% derating each 100 m from 1000 m to 2000 m)		
Noise	78dBA at 1 m		
Storing temperature	-20 °C ÷ -70°C (UPS); 20 °C ÷ 30 °C (Batteries)		
Operating temperature	0 ÷ 40 °C		
Relative humidity	<95% non condensing		
Remote controls	E.P.O. and bypass		
Remote signals	Voltage free contacts		
Protection degree	IP20		
Protections	Back Feed protection; separated By-pass line		
Communication	no. 2 RS232 + remote contacts + 2 communication interface slots		
Cooling	Forced air		
Colour	Light grey RAL 7035		

Standards	Directives EEC 73/23 – 93/68 – 89/336 Safety IEC EN 620401 ; EMC IEC EN 6204-2 ; Performance IEC EN 62040-3		
Technology	On-line double conversion		
Weight (kg)	3600 Kg	4000 Kg	5300 Kg
Dimensions (WxDxH) mm	3200x980x1900 mm		4400x1000x1900 mm
Classification as per IEC 6240-3	(voltage Frequency Independent) VFI – SS – 111		
DATA	MPS 500	MPS 600	MPS 800
Back up time at full load	0 Min.		
Installation	Tower		
Configuration	Parallel		
OPTIONS	MPS 500	MPS 600	MPS 800
Battery cabinets for longer runtimes	Yes		
Empty battery cabinets for longer runtimes	Yes		
Parallel kit	Yes		
Isolation transformer module (WxDxH)	Yes		
LCD-based remote control panel	Yes		
LED-based remote control panel	Yes		
OPTIONS	MPS 500	MPS 600	MPS 800
MultiCom 351	x	x	x
MultiCom 352	x	x	x
MultiCom 301	x	x	x
MultiCom 302	x	x	x
NetMan 101 Plus	x	x	x
NetMan 102 Plus	x	x	x
Multi I/O	x	x	x
AS/400 interface kit	x	x	x
UGS – UPS Group Synchronizer	x	x	x
PSJ – Power System Joiner	x	x	x
Profibus DP Gateway	x	x	x